optiply.
Supply Management Software

Optiply is a small company that developed an inventory optimization algorithm for the e-commerce industry. Our customers are born into an online world but are using old world tools for their inventory management. This means a lot of manual tasks, judgment calls in determining the right replenishment decisions. In the age of data and algorithms this should not be the case anymore. Enter Optiply. We are building a data driven, automated solution to help e-commerce companies manage their replenishment. For this we use all the transactional data but also external data sources like Google positions, weather data and competitor information. We have a functioning version of our algorithm that helps customers keep their inventory as low as possible while still being able to service customers. However, right now there are a lot of moving parts in the system (what policy to choose, choice of forecasting method, which data sources to use for the forecast, how to create product categories, parameter settings). This makes optimizations per customer difficult and complex. The assignments all focus on taking our algorithm one step closer to full automation and making the life of our customer as easy as possible. The goal of the internship is to pick a part of the algorithm and come up with a working solution for improvement that is ready to be implemented.

- Come up with an appropriate cost function for the system and use simulation techniques/reinforcement learning to systematically enhance performance for each customer individually.

- Determine the cost of the interaction between the forecast and the replenishment model and make adaptations accordingly.

- Making sure the scalability of the algorithm is feasible becomes harder and harder. Is it possible to convert parts of the algorithms to 'online' computations (i.e. calculations based on new incoming data instead of calculating the whole batch again each time).

- Exceptional products (e.g. extreme high growth, extremely big order) have a disproportionate impact on the performance of the whole system. Think of techniques to efficiently detect and handle these exceptions.

We have a team of eight people (only engineers) and we have offices on the TU/e campus and in Amsterdam. Working in a small team means your work will have a direct impact on the core product. An internship allowance is available (of course). We look for students with a background in mathematics, data science or computer science.

Interest sparked? See Optiply.com or email at sander@optiply.nl for extra information.